

DMR Pollutant Loading Tool Version 1.0

EVERYDAY SEARCHES USER GUIDE

1. OVERVIEW

You have a new tool for analyses of wastewater pollutant discharge data. This tool, the Discharge Monitoring Report Pollutant Loading Tool (abbreviated "Loading Tool") provides you with pollutant loadings you can use to answer questions about the amount and toxicity of pollutant discharges to U.S. waters.

The tool calculates pollutant loadings from monitoring and permit data from EPA's Permit Compliance System (PCS) and Integrated Compliance Information System for the National Pollutant Discharge Elimination System (ICIS-NPDES). The tool also includes wastewater pollutant discharge data from EPA's Toxics Release Inventory (TRI). Data are available for the years 2007 through 2010. This tool helps you access wastewater pollutant discharge data, if you are a general user or if you are a more technical user:

- If you are a **general user**, you can use the *EZ Search* or *TRI Search* to quickly find discharge monitoring data or TRI data based on simple searches.
- If you are a **technical user** (e.g., NPDES permit writer, watershed modeler, or regulatory agency), you can use the *Advanced Search* to access more detailed discharge monitoring data that you can download in a comma-separated value (CSV) file for further analysis in your own software application.

You can navigate the Loading Tool home page using the eight tabs described in Table 1.

Table 1. Loading Tool Tabs and Descriptions

Tab	Description
Overview	Provides general information about the tool including: (1) How to Navigate the Tool; (2) Loading Tool Data Sources; (3) Data Scope and Limitations; and (4) 2010 Beta Release and Testing.
EZ Search	General users can perform simple searches using DMR data. Results are displayed on a Web page in "top ten" lists to help you determine which discharges are important, which facilities and industries are producing these discharges, and which watersheds are impacted.
TRI Search	Similar search interface and display results as EZ Search but the data source is TRI data
Facility Search	Provides direct access to facility-level information, one facility at a time.
Advanced Search	Designed for technical users and provides increased flexibility on search criteria and data to be downloaded as a CSV file for post processing by the user.
Data Explorer	General users can create a thematic map of the United States in which states are shaded in blue in proportion to the user's search criteria. For example, the user can visually see the number of POTWs in each state with states shaded in dark blue having the most number of POTWs.
Everyday Searches	Provides access to trend charts and other 'canned' searches (by geographic location, industry sector, and/or pollutant) of DMR data that are often used by technical users. In particular, the "Facility Loading Calculations" on this tab details exactly how the tool calculates annual pollutant loads using DMR data
Users Guide/Technical Documents	Provides the instructions, guides, and metadata to assist users with the Loading Tool.

This document provides guidance for using the Everyday Searches tab. You can find guidance for using the EZ Search, Facility Search, and Advanced Search in the *User's Guide for using the EZ Search, Facility Search, and Advanced Search*; the Data Explorer feature in the *User's Guide for using the Data Explorer*; and the TRI Search in the *User's Guide for using the TRI Search*.

2. EVERYDAY SEARCHES

Everyday searches provide search options based on specialized data requests that cannot easily be queried using the EZ Search, Facility Search, or Advanced Search and other additional tools. The everyday searches page is shown in Figure 2-1 and includes Search EPA Lookup Tables, Facility Loading Calculations, Counts and Summaries, Loading Trends Charts, Exceedance Charts, Load Over Limit Summary, Facility Exceedance Counts, and Top Industrial Dischargers of Toxic Pollutants. Each of these searches is described in detail in the sections below.

Everyday Searches instructions. These "everyday" searches provide specialized search options that are not available using the EZ Search (DMR) or Advanced Search. These specialized searches use DMR data from PCS and ICIS-NPDES. For more information on using these Everyday Searches, refer to the Everyday Searches User's Guide (PDF) Search EPA Lookup Tables. These look up tables provide an easy way to access information and the connections used by the Loading Tool. For example, you can use your zip code to find the name of your watershed. Facility Loading Calculations. This search will allow you to review the exact monitoring data and formulas that the Loading Tool uses to calculate the annual estimates of pollutant discharge loading calculations for a single facility. This search is particularly useful for identifying potential data errors. Eased on Pollutant Discharges. This search counts facilities, summarizes pollutant discharge amounts, and groups these data by state, pollutant, and industrial sector. You can search by year, geographic location, pollutant, and industry category. This search is particularly useful if you would like to count the number of facilities that have effluent discharges for a particular pollutant and group these counts by state or industrial sector. Eased on Permit Effluent Limits and Measurements. This search counts facilities, summarizes poliutant discharge amounts, and groups these data by state, pollutant, and industrial sector. You can search by year, geographic location, pollutant, and industry category. In addition, you can search on effluent limit type and amount. This search is particularly useful if you would like to count the number of facilities that have effluent limits for a particular pollutant and group these counts by state or industrial sector. Loading Trends Charts. Search by decorabilic location, pollutant, and for industry category and visually compare pollutant discharge amounts over multiple Exceedance Charts. Search by geographic location, pollutant, and/or industry to visually compare the number of facilities with effluent limit exceedances and the magnitude of these exceedances (grouped as percentages over the effluent limit) over multiple years. Load Over Limit Summary. Search by year, geographic location, and/or industry to generate a data file showing facility information, the total facility load over effluent limit, top load over effluent limit parameter, and the parameter load over effluent limit for each reporting year. Facility Exceedance Counts. Using a facility name or unique identifier you can identify the months when a facility has exceeded its permitted effluent limit for each outfall at the facility. Top Industrial Dischargers of Toxic Pollutants. This search provides a listing of the industrial sectors, grouped by EFA's Effluent Cuidelines Point Source Categories, by the cumulative amount of toxic pollutant discharges (in units of toxic-weighted pound equivalents or "TWFE"). Completeness of Clean Water Act Discharge Monitoring Data by State - Universe Facilities. This map shows the percentage of individually permitted "majors" and "non-majors" that have DMR data in EPA's data systems (PCS or ICIS-NPDES). Nutrient Modeling (Hypoxia Task Force Search). This search provides facility totals for aggregated nitrogen and aggregated phosphorus loads. The search includes nutrient loads calculated using DMR data as well as modeled nutrient loads for facilities that are likely to discharge Nitrogen and/or Phosphorus, but do not report Nitrogen or Phosphorus discharges on their DMRs.

Figure 2-1. Everyday Searches Page

2.1 EPA Lookup Tables

The Loading Tool uses information from several data sources. Different data sources may use different codes or categories to describe the same facility, pollutant, industry, or watershed. For example, a facility may be identified by its NPDES ID, Toxic Inventory Release (TRI) ID and Clean Watershed Needs Survey (CWNS) ID. If you know one code or category for a facility, pollutant, industry, or watershed, you can use the Look-Up Table Searches to find the codes or

categories used in other databases for that facility, pollutant, industry, or watershed. EPA created four look-up tables for these searches:

- Facility ID Look-up;
- Pollutant Look-up;
- Industry Code Look-up; and
- Watershed Look-up.

2.1.1 Facility ID Look-Up

Using the Facility ID Look-up, you can specify any one of the facility ID fields shown in Figure 2-2. When you click *Search*, the Loading Tool will display any matching IDs for the other facility ID fields. Note that searching on one type of facility ID may produce multiple results for other facility IDs. Multiple results are displayed in a list format within to the results field, as shown in Figure 2-2.

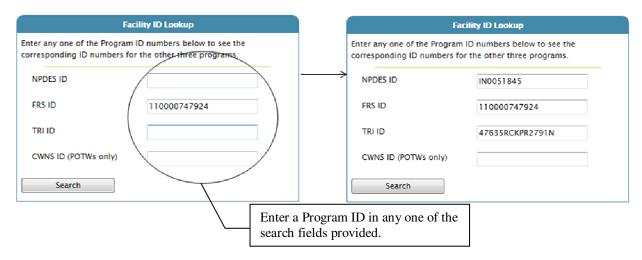


Figure 2-2. Facility ID Look-Up

2.1.2 Pollutant Look-Up

Using the Pollutant Look-Up, you can enter either a pollutant name or Chemical Abstracts Service (CAS) Number, as shown in Figure 2-3. When you click *Search*, the Loading Tool will display the corresponding parameter code(s), pollutant code, system registry service (SRS) IDs, pollutant toxic weighting factor (TWF), and pollutant category(ies).

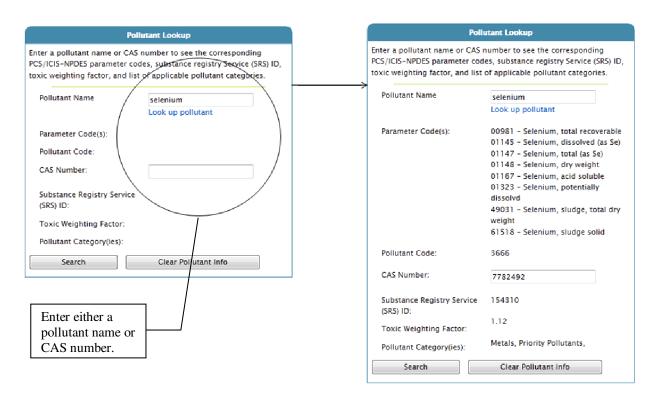


Figure 2-3. Pollutant Look-Up

2.1.3 Industry Code Look-Up

Using the Industry Code Look-Up, you can enter a Standard Industrial classification (SIC) code, a North American Industry Classification System (NAICS) code, or an Effluent Guidelines Point Source Category Code(s), shown in Figure 2-4. When you click *Search*, the Loading Tool will return the corresponding Point Source Category Code(s), SIC code(s), and NAICS code(s). EPA developed this linkage to assign facility discharges to Point Source Categories for its annual review analysis. The annual review includes discharges reported to TRI, the Permit Compliance System (PCS), and the Integrated Compliance Information System for the NPDES (ICIS-NPDES). TRI uses NAICS codes to categorize industrial activities at facilities, while PCS and ICIS-NPDES use SIC codes. Because EPA developed the look-up to link SIC codes and NAICS codes to Point Source Categories, and because there is not a one-to-one match between SIC codes and NAICS codes, the search does not directly link SIC codes to NAICS codes.¹

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¹ The 1997 Economic Census provides a Bridge Between NAICS and SIC codes, available online at http://www.census.gov/epcd/ec97brdg/

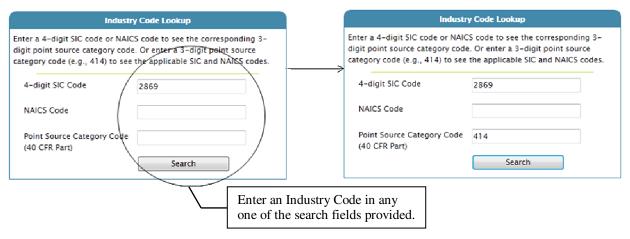


Figure 2-4. Industry Code Look-Up

2.1.4 Watershed Look-Up

Using the Watershed Look-Up, you can enter a 5-digit zip code as shown in Figure 2-5 and the Loading Tool will return the corresponding 12 digit hydrologic unit codes (HUC-12). The Loading Tool uses a WATERS web service to connect zip codes to HUC-12 codes. The geographic boundaries for zip codes are different from watershed boundaries and some zip codes comprise more than one watershed; therefore, searching on a zip code can return more than one HUC-12 code.

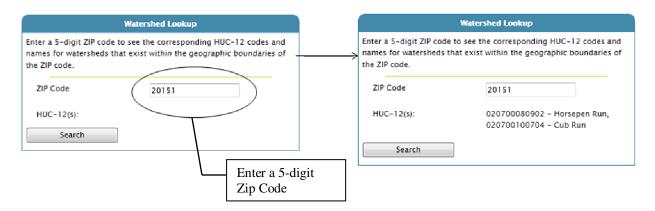


Figure 2-5. Watershed Look-Up

2.2 Facility Loading Calculations

The facility load calculation demo allows you to search for loadings data for a single facility. It allows you to click on pollutant loadings to see the underlying DMR data and the Loading Tool's methodology for computing the annual load. You first select a reporting year and then enter facility criteria: FRS ID, NPDES Permit ID, or the Facility Name, shown in Figure 2-6. When you click search, the Loading Tool will return a list of annual pollutant loads for the facility. Click on the "View Details" button for any one of the pollutants and the Loading Tool will display the outfall-level loadings for the selected pollutant. Click on the "View More Details" button for any one of the outfall-level loads and the Loading Tool will display a table showing how the Loading Tool calculated the annual load using the monthly DMR data, shown in Figure 2-7.

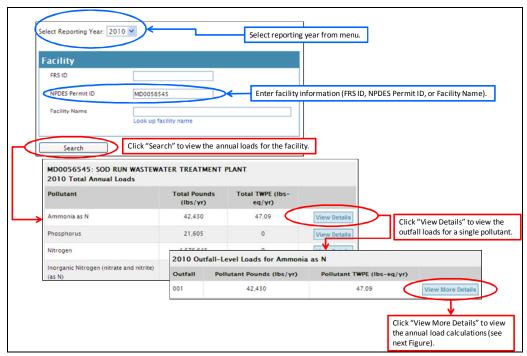


Figure 2-6. Facility Loading Calculations



Figure 2-7. Facility Loading Calculations (Continued)

2.3 Facility Counts and Summaries

The Loading Tool provides two options for generating Facility Counts and Summaries:

- Search based on pollutant discharges: This search generates counts of facilities with pollutant discharge information; and
- Search based on effluent limits and measurements: This search generates counts of facilities that have certain types of effluent limits in their NPDES permits and report certain types of effluent measurements.

Both searches allow you to summarize data completeness statistics by Pollutant, SIC Code, or State. After selecting how to summarize results, enter search criteria on geographic location or watershed, pollutant, and industry category, shown in Figure 2-8. Click the search button to view the results, shown in Figure 2-9. You may also download a csv of all data or the facility data from the summary table page.

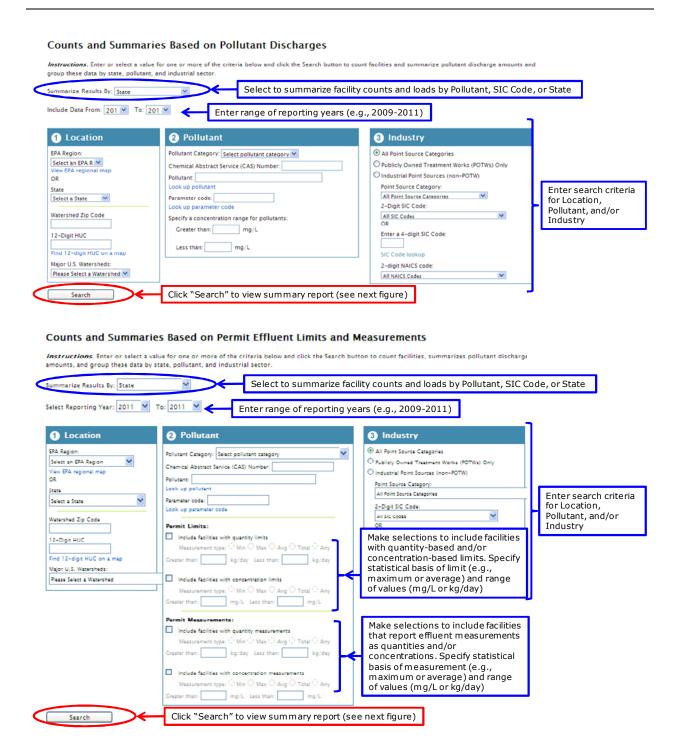


Figure 2-8. Counts and Summaries Search Pages

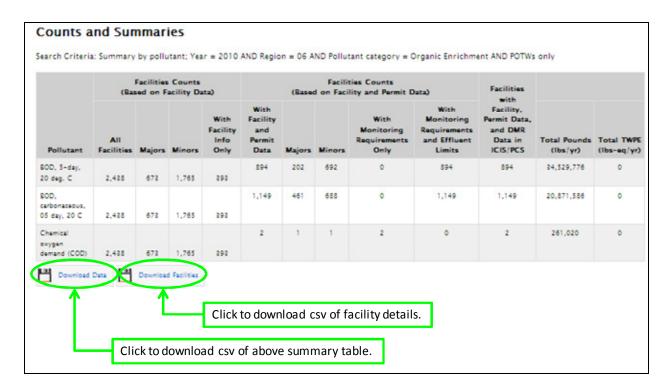


Figure 2-9. Counts and Summaries Results

2.4 <u>Loading Trends Charts</u>

The loading trends charts allows you to search by geographic location, pollutant, and/or industry category and visually compare pollutant loadings in pounds per year and TWPE per year over multiple years, shown in Figure 2-10. After entering search criteria, you can click a "View Loading Trends" button to see a bar chart of pollutant loadings from 2007 to 2010.

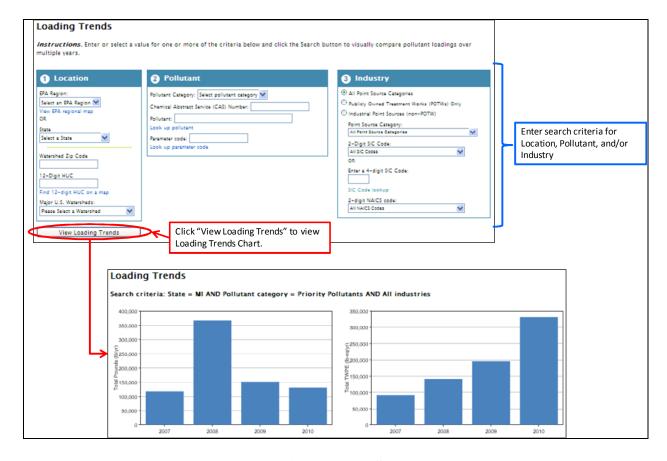


Figure 2-10. Loadings Trends Search and Results

2.5 Exceedance Charts

This search option allows you to search by geographic location, pollutant, and/or industry to visually compare the number and magnitude of exceedances over multiple years. After entering your search criteria, shown in Figure 2-11, click the "View Exceedance" button to see a bar chart comparing the counts of exceedences that are within percentage ranges (0 to 20%, 20% to 40%, 40% to 60%, 60% to 80%, 80% to 100%, and greater than 100%) from 2007 to 2010.

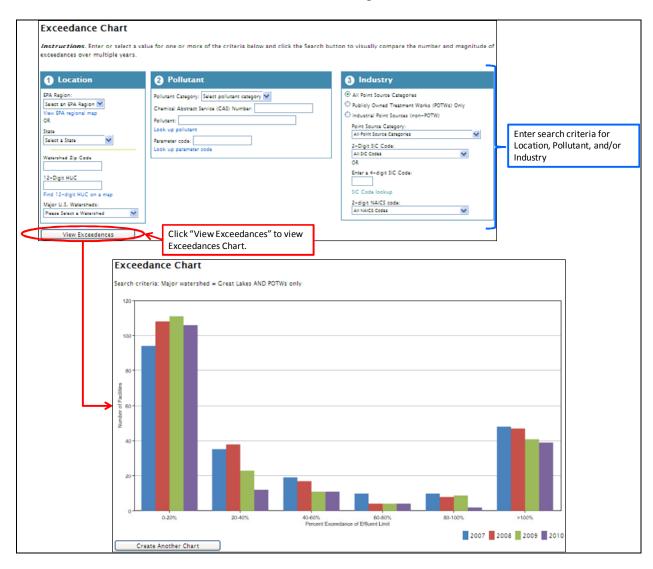


Figure 2-11. Exceedance Charts Search Page and Results

Note on Exceedances vs. Load Over Limit:

There are differences in the way that the Loading Tool calculates loads over limit and exceedances, which can lead to inconsistent results:

- Load Over Limit The Loading Tool calculates loads by prioritizing average quantities/concentrations over maximum quantities/concentrations even if the permit limit is a maximum quantity/concentration. As a result, the measurement that the Loading Tool uses to calculate the pollutant load may not have the same statistical basis as the permit limit.
- Exceedances The Loading Tool measures exceedances by comparing the DMR measurement that directly corresponds to the permit limit (e.g., maximum concentration compared to maximum concentration limit)

Therefore, results for Load Over Limit searches may not directly match Exceedance Counts searches.

2.6 Load Over Limit Summary

The load over limit summary search allows you to search by year, geographic location, and/or industry, shown in Figure 2-12. The search generates a csv file showing facility information, the top load over limit pollutant in pounds, and the top load over limit pollutant in TWPE for each reporting year.

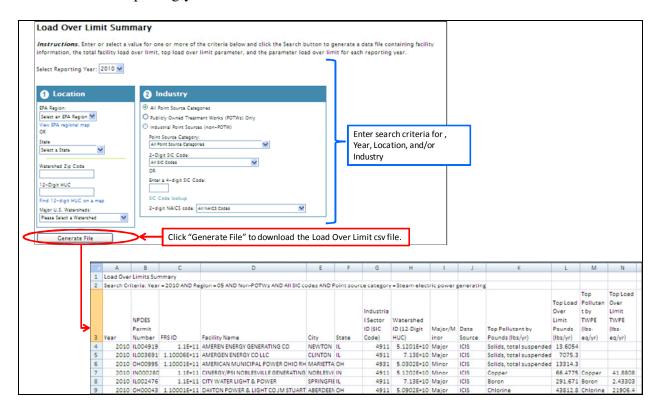


Figure 2-12. Load Over Limit Summary Search and Results

Note on Exceedances vs. Load Over Limit:

There are differences in the way that the Loading Tool calculates loads over limit and exceedances, which can lead to inconsistent results:

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- Exceedances The Loading Tool measures exceedances by comparing the DMR measurement that directly corresponds to the permit limit (e.g., maximum concentration compared to maximum concentration limit)

Therefore, results for Load Over Limit searches may not directly match Exceedance Counts searches.

2.7 Facility Exceedance Counts

The facility exceedance counts search allows you to search by facility and monitoring period range, as shown in Figure 2-13, to generate a csv file showing counts of exceedances for each type of effluent limit (e.g., maximum concentration, average concentration), for each pollutant, at each outfall at the facility.

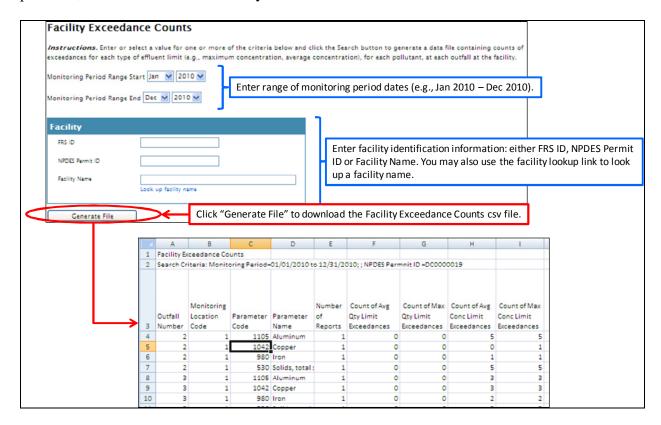


Figure 2-13. Facility Exceedance Counts

Note on Exceedances vs. Load Over Limit:

There are differences in the way that the Loading Tool calculates loads over limit and exceedances, which can lead to inconsistent results:

- Load Over Limit The Loading Tool calculates loads by prioritizing average
 quantities/concentrations over maximum quantities/concentrations even if the permit
 limit is a maximum quantity/concentration. As a result, the measurement that the
 Loading Tool uses to calculate the pollutant load may not have the same statistical basis
 as the permit limit.
- Exceedances The Loading Tool measures exceedances by comparing the DMR measurement that directly corresponds to the permit limit (e.g., maximum concentration compared to maximum concentration limit)

Therefore, results for Load Over Limit searches may not directly match Exceedance Counts searches.

2.8 Top Industrial Discharges of Toxic Pollutants

This search option allows you to rank Point Source Categories by their combined DMR and TRI TWPE. To generate rankings, select a reporting year and click "View Rankings". You also have the option to exclude categories that have been under review for Effluent Guidelines development since a specified year. The Top Industrial Discharges of Toxic Pollutants search page and results are shown in Figure 2-14.

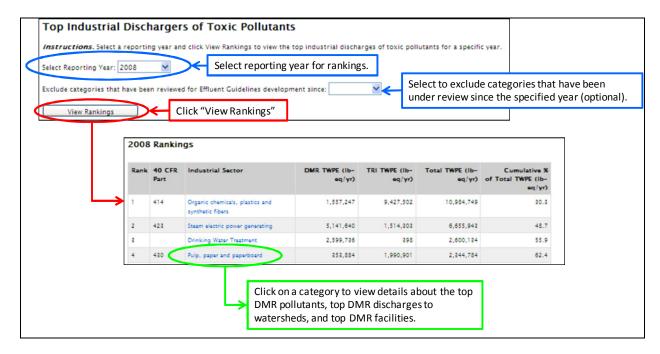


Figure 2-14. Top Industrial Discharges of Toxic Pollutants Search and Results